

Social background and school choices

Background sociale e scelte scolastiche

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Riassunto: Il lavoro esamina natura e determinanti della scelta della scuola secondaria in Italia in base ai dati PISA 2003, ipotizzando che la scelta dipenda anche dallo status socio-economico della popolazione studentesca dei singoli istituti.

Keywords: social risk, equality of opportunity, multinomial logistic, PISA survey

1. Introduction

Equality of opportunities in education is a widespread goal. Still, the *Programme for International School Assessment* (PISA) - conducted by OECD in order to evaluate cognitive abilities of 15 year olds and compare different educational systems - shows that in most countries performance is highly dependent on family social background. Given that performance also depends on school-type and that school-type itself depends on households' features, understanding how people make their school choices is a very relevant issue. We address this problem for Italy, using PISA 2003 data.

There are a few recent papers on secondary school choices in Italy. Checchi, Jappelli (2003) focus on the choice between private and public school; Cappellari (2004) analyses the distinction between general and technical schools. Checchi, Flabbi (2006) study the determinants of the choice of lyceum, *istituti tecnici*, or *istituti professionali* with PISA. Taking the performance score in mathematics as a control for student ability, they find that parent's educational attainment has a strong impact on school-type.

Although similar in spirit to the latter work, we also address the following issue: do individual choices take into account the social composition of the school? If higher status individuals prefer higher status schools, when school social composition is not accounted for, the degree of educational stratification is underestimated. Note that social composition can be estimated with PISA, since a random sample of about 30 students per school was interviewed. We thus compare two different set of alternatives: the traditional school-type distinction and a bivariate classification of the former and the average school socio-economic level. Empirical evidence seems to favor the second alternative.

2. The model

Preliminary analyses show that average school socio-economic levels markedly differ across school types; moreover these levels vary significantly even within groups of schools of the same type in the same regions. Evidence of social stratification is strong.

We use multinomial logit to estimate the effect on school-type of the individual socio-economic level (*Escs* index provided by PISA), controlling for gender, family structure and geographical area. Individual ability is the most relevant omitted variable (Hansen *et al*, 2004). Since pre-choice performance scores at the end of lower secondary *Ps* are not observed, differently from Checchi, Flabbi we choose *not* to include PISA performance scores to proxy ability: PISA scores, from second year of high-school, are endogenous. Assuming that: there is a latent unobservable ability “at birth” U_A uncorrelated with *Escs*, previous scores *Ps* depend on U_A and *Escs*; school-type *St* depends on *Ps* and *Escs*; then modeling *St* given *Escs* provides a lower bound for the gross effect of *Escs* on *St* - direct effect plus indirect effect through *Ps* (with linear model, gross effect would be unbiased, because omitted *Ps* depends on U_A , which is uncorrelated with *Escs*).

School average *Escs* has been categorized in two levels – variable across areas and school types – according to whether the value is above or below the corresponding median. Thus, together with the traditional set of alternatives $St1 = \{lyceum, magistrali, technical, professionali\}$ we consider the alternative set *St2* given by the product of *St1* and School average *Escs*. In order to avoid possible spurious effects due to limited available options in small municipalities, we restrict the analysis to urban areas.

3. Results and conclusions

The additional complexity of *St2* with respect to *St1* appears to be relevant. The degree of social stratification is enhanced when we consider school social composition. In particular, for an individual *Escs* increase of one unit (about 1 st. dev) the estimated odds of enrolling to the highest category with respect to the lowest reaches the value of 7.3; such value goes up to 53 for a change from 1st to 3rd quartile of the *Escs* distribution.

Table 1: *Estimated coefficients of individual Escs for dependent St2 and St1*

	B ¹	s.e (B) ³	exp(B)		B ²	s.e (B) ³	exp(B)
professionali above median	0,2949	0,2865	1,3430	technical	0,4656	0,1212	1,5930
technical below median	0,4457	0,2336	1,5615	magistrali	1,0610	0,2644	2,8891
technical above median	0,8111	0,2199	2,2504	lyceum	1,6971	0,1516	5,4582
magistrali below median	1,1183	0,3531	3,0596				
magistrali above median	1,4529	0,4508	4,2753				
lyceum below median	1,7231	0,3044	5,6020				
lyceum above median	1,9862	0,2621	7,2875				
Cox-Snell R ² = 0.53; -2LL=10719, df=49				Cox-Snell R ² =0.45; - 2LL*=11710, df=21			

1 Reference category: professionali below median

2 Reference category: professionali

3 Due to complex sample design, standard errors have been estimated with the re-sampling method BRR

* Value computed for the equivalent model with 8 categories in the dependent variable

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